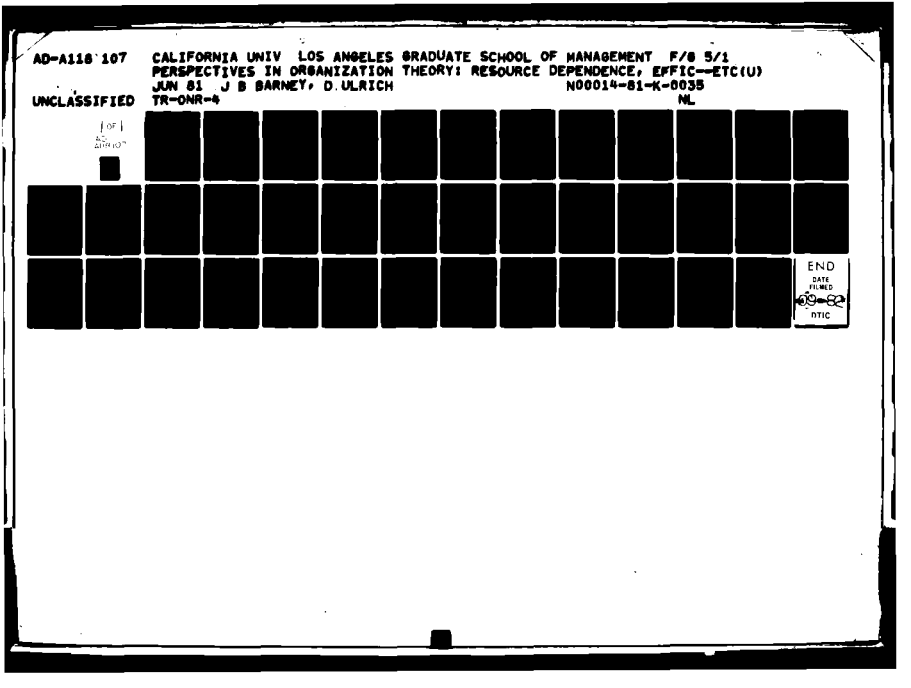
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Development of alternative models of organizations plays an important role in the development of organization theory. While many views on organizations have received varying degrees of attention, three perspectives have recently been the object of increasing interest, the resource dependence, efficiency, and ecological perspectives. This paper reviews the assumptions, theories and research of each perspective. It then integrates them by showing that a population perspective provides a meta-theoretical framework within which the other perspectives can be interpreted as guidelines.

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PERSPECTIVES IN ORGANIZATION THEORY: RESOURCE DEPENDENCE, EFFICIENCY, AND ECOLOGY*

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June 1981

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ABSTRACT

Development of alternative models of organizations plays an important role in the development of organization theory. While many views on organizations have received varying degrees of attention, three perspectives have recently been the object of increasing interest, the resource dependence, efficiency, and ecological perspectives. This paper reviews the assumptions, theories and research of each perspective. It then integrates them by showing that a population perspective provides a meta-theoretical framework within which the other perspectives can be interpreted as guidelines and directions for studying selection mechanisms. In addition, the paper notes that the resource dependence and efficiency perspectives are similar in that they both posit the importance, for organizational survival, of the development of long-term, stable resource supply relationships. However, while both of these models recognize hierarchical mechanisms of control as a means for developing the desired supply relations, the efficiency perspective also recognizes that market forces under certain specifiable conditions can be used to establish these relations. The analysis suggests a hierarchical model of these three organizational perspectives.

PERSPECTIVES IN ORGANIZATION THEORY: RESOURCE DEPENDENCE, EFFICIENCY, AND ECOLOGY

The development of theoretical models plays an important role in the development of the social, as well as the physical and biological sciences (Kuhn, 1970; Ritzer, 1975; Pondy and Boje, 1980; Morgan, 1980). In the last thirty years, a great deal of empirical and theoretical effort has been expended in numerous, and often unrelated, attempts to develop cohesive and fruitful models in organizational theory. Despite this work, explanations of how and why organizations behave have rarely received enough consistent theoretical and empirical attention to warrant being called fully developed organizational theory models.

Against this background, the purposes of this paper seem particularly ambitious. Specifically, we point to three perspectives in organizational theory that may now be emerging as possibly competing models in organization theory. The major objectives of this paper are to summarize these three perspectives, and to suggest a framework within which their interrelationships can be understood. While no labeling scheme can completely capture the complex history and assumptions of the three perspectives to be discussed, we call them: (1) the resource dependence perspective, (2) the efficiency perspective, and (3) the ecological perspective.[1]

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[1] These perspectives are known by alternative labels. The resource dependence perspective has also been called the political economy approach, and the exchange perspective. The efficiency model is also known as the organization failures framework and the transaction costs perspective. Finally, the ecological perspective has been labeled by other authors the population model, the population ecology perspective, and the natural selection model. By calling these three traditions theoretical perspectives, rather than models or organization theory paradigms, we acknowledge that additional theoretical and empirical work remains before they can be thought of as comprehensive, internally consistent, highly elaborated models in organization theory.

Several characteristics of these three perspectives seem to enhance their likelihood of becoming more fully developed competing organizational theory models. First, each perspective has relatively clear theoretical statements. Pfeffer and Salancik (1978) and Pfeffer (1981), for example, summarize a great deal of the empirical and theoretical work on resource dependence. Williamson (1975) offers a general statement of the efficiency perspective. Recent work by Hannan and Freeman (1977), Aldrich (1979), and McKelvey (in press) presents many of the underlying assumptions of the ecological perspective. Second, as we review below, each tradition has well established and different theoretical and empirical literatures. Third, each draws from distinct scientific traditions. The resource dependence perspective draws most directly from sociology and political science; the efficiency perspective from economics, and the ecological perspective from biology. Finally, the implications of these three theoretical traditions provide varied views of the operation and structure of organizations.

The structure of our discussion is straightforward. First, we briefly summarize each perspective as presented in the literature, review some of the theoretical and empirical work generated by each of the three perspectives, and highlight some of the managerial implications of each. These reviews have several functions in our discussion.[2] First, they serve as brief introductions to the perspectives. In addition, they introduce a set of ideas and concepts that will be used throughout our discussion. This is particularly important, as each of the traditions reviewed has associated with it a great deal of

[2] More elaborate reviews of these traditions can be found in Pfeffer and Salancik (1978), Pfeffer (1981), Ouchi (1980), Barney and Ouchi (1981), Williamson (1975), Hannan and Freeman(1977), Aldrich (1979), McKelvey (in press), and Aldrich and Pfeffer (1976).

idyosyncratic terminology. After we introduce the three traditions, we compare and contrast them with an eye towards developing a framework within which their interrelationships can be understood.

THE RESOURCE DEPENDENCE PERSPECTIVE

Basic Assumptions

Strongly rooted in sociology (Weber, 1947), the fundamental conceptual driving force in the resource dependence perspective is power. According to this perspective, much of the structure and operation of organizations can be traced to the nature of power relations that exist between two or more organizations.[3]

A simplified version of the resource dependence perspective is outlined in Figure One. In this approach, organizations are assumed to attempt to

[Figure One About Here]

accomplish two related objectives: (1) to acquire control over resources which minimize their dependence on other organizations and (2) to acquire control over resources which maximize the dependence of other organizations on themselves. Attaining either objective is thought to increase an organization's power.

The environment poses several interrelated problems for organizations trying to minimize their dependence. Organizations need to acquire scarce and valued resources from their environment, while minimizing the uncertainty

[3] Much of the theory and research on power and organizations has dealt with power relations among individuals or subunits within an organization. The model presented, though couched in inter-organizational terms, is consistent with this intra-organizational research tradition.

FIGURE ONE. Summary of

Resource Dependence Perspective

ENVIRONMENT	⟷	ORGANIZATION
Poses problems to organization. It:		
1. contains scarce and valued resource essential to organizational survival		1. Works to resolve environment problems. It attempts to acquire resources and reduce uncertainty which minimizes its dependence.
2. poses problems of uncertainty in resource acquisition which organizations must reduce		2. Desires to increase the dependence of other organizations on itself, through control of scarce and valued resources
		3. Both these activities increase an organizations power.

associated with this acquisition process. Within a resource dependence framework, uncertainty often relates to the variability and complexity in resource acquisition relations with other organizations. For example, a firm can minimize its uncertainty in supply relationships by forming links with influential individuals in supplier firms, by becoming partners with such firms in joint venture activities (Provan, Beyer & Kruytbosch, 1980), or by acquiring key suppliers. The more the firm reduces supply uncertainty, the more the firm minimizes its dependence on other firms, and, in turn, gains power.

While an organization acts to minimize its dependence, it may also act to maximize other organization's dependence on it. It may use proactive strategies to increase the dependence of other firms on it and gain power vis-à-vis these increasingly dependent firms. By controlling scarce and valued resources, such an organization can obtain many of the benefits of power.

In general, resource dependence perspectives characterize the links between organizations as a set of power relations based on patterns of resource acquisition. Organizations attempt to alter their dependence relationships to obtain the benefits of organizational power. Dependencies can be altered by minimizing an organization's own dependence or by increasing the dependence of other organizations.

Theoretical and Empirical Literature

Research on the bases of power within organizations began as early as Weber (1947), and included much of the early work conducted by social exchange theorists (e.g., Emerson, 1962; Blau, 1964) and political scientists (e.g., Dahl, 1957). More recent work on the role that personal or subunit power plays for the structure and functioning of intra-organizational proceses has been conducted by Crozier (1964) and Hickson, Hinings, Lee, Schneck, and Pennings (1971; 1974).

Generalization of power based arguments from intra-organizational relations to relations between organizations began as early as Selznick (1949). In Selznick's view, organizations have the capacity to develop distinctive competencies, and then draw from forces external to the organization to support these central tasks. Cooptation, viewed in this light, is essentially an organizational attempt to gain power by minimizing its dependence on others and by maximizing the dependence of others in its environment on itself.

Selznick's original power insights have been modified and developed by Yuchtman and Seashore (1967), Thompson (1967), and Pfeffer, Salancik, and their associates (Salancik and Pfeffer, 1974; 1977; 1978; Pfeffer, 1977; Pfeffer and Salancik, 1978; Pfeffer, Salancik, and Leblebici, 1976; Pfeffer and Leong, 1977; Pfeffer and Moore, 1980). These numerous studies, while done in different organizational settings are consistent with the resource dependence perspective outlined in Figure One. Pfeffer & Leong (1977) and Provan, Beyer, and Kruytbosch (1980), for example, argue that relative power in a United Way agency is a function of interorganizational relations. Agencies minimize self-dependence and maximize other-dependence by generating alternative sources of funding, by establishing numerous links with community leaders, by demonstrating higher demand for services, and by providing intensive services to clients. These acts limit an agencies dependence on United Fund headquarters and increase other agencies respect and dependence on it. By so doing, the agency acquires more power relative to other agencies.

Managerial Implications

Managers recognizing and operating from a resource dependence perspective would act to maximize their organization's or sub unit's power by minimizing its dependence and by maximizing the dependence of other organizations or

units in their own organization on themselves. A number of specific strategies that managers may use to obtain these two objectives have been identified and

[Table One About Here]

are listed in Table One. Two characteristics of these sets of strategies need attention. First, dependence minimization and maximization strategies overlap; managers can develop and implement policies and strategies that simultaneously affect all aspects of their resource relations which maximize their power. Second, the recommended managerial strategies in this perspective generally involve changing the interorganizational power structure such that power is centralized in one organization or a set of organizations. The extent of this power centralization varies from acquisition and vertical integration, where formal controls officially extend to include previously separate organizations, to buffering and smoothing, where some of the power of the environment is diluted by decreasing a firm's resource dependence on external resources. In most instances, strategies successfully employed by managers using this perspective will yield an increase in their organization or unit's power.

THE EFFICIENCY MODEL

Basic Model

Whereas the resource dependence perspective is rooted in sociology the efficiency perspective draws heavily from economics. As its name implies, the major driving conceptual force in this perspective is economic efficiency. Organizations in this approach seek to engage in economic exchanges in as efficient a way as possible (i.e., minimizing overhead, minimizing enforcement costs).[4] Transaction costs, the costs associated with developing and maintaining

[4] Efficient economic exchanges involve the minimization of both production costs and transaction costs.

TABLE ONE. Managerial Implications of Resource Dependence Perspective (Adopted from Miles, 1980, p. 293-294).

Inter-Organizational Strategies		Intra-Organizational Strategies	
Strategy	Author	Strategy	Author
Cooptation	Selznick (1949)	Alliances maintain maneuverability	Martin and Sims (1956)
Buffering Smoothing Forecasting Rationing	Thompson (1967)	Promote limited communication Exhibit confidence	
Boundary Spanning		Control access to information	Mechanic (1962)
Acquisition Merger Espionage Litigation Arbitration Mediation	Evan (1966)	Control access to persons Control access to instrumentalities	
Pricing fixing cost-plus contracts	Perrow (1970)	Control uncertainty on behalf of other persons or units	Crozier (1964) Hickson (1971)
Temporary coalitions	Aiken and Hage (1971)	Make activities central and non-replaceable	
Board of Directors	Pfeffer (1972)	Create sponsor relationship	Martin and Strauss (1965)
Create slack resources Create self-contained units Verticle information systems	Galbraith (1973)	Stimulate competition among ambitious subordinates	Litterer (1966)
Create lateral relations		Alliances with power people	DuBrin (1974)
Long term contracts Associations Monopoly/oligopoly relations Diversification	Miles, Snow and Pfeffer 91974)	Inform others of own stakes in decision issue	Patchen (1974)
Price discrimination Tying arrangements Refusal to deal Franchise alidation Reciprocity	Staw and Szwajkowski (1975)	Develop expertise Control information Build personal stature Develop group support	Pettigrew (1975)
Allocation of markets Conspiracy		Manage uncertainty Control resources Build alliances	Pfeffer (1977)

economic exchanges, vary directly as a function of the complexity, uncertainty, enforcement difficulty, goal congruence, investment specificity, and other characteristics of exchanges, or transactions. The major thrust of this approach is to specify the governance forms that most efficiently mediate various kinds of transactions.

Under many conditions, markets are efficient mediators of economic transactions. However, when the goods or services exchanged are highly complex, delivered over a long period of time, or exchanged in non-competitive settings, then fair prices are difficult and costly to set and a market fails to govern the exchange efficiently. Attempts to assure an equitable transaction in such a situation through market mechanisms would be prohibitively expensive, if not impossible, and thus the transaction would not occur over time. To improve efficiency, markets are replaced by hierarchies (what the other perspectives call organizations). Hierarchies are superior to markets when the exchange of goods or services is characterized by complexity, uncertainty, and long-term or non-competitive relations. The hierarchy allows decisions about the terms of an exchange to be made and adjusted over a long period of time (e.g., the employment contract) and minimizes the need for continual, close inspection of the exchange to ensure that neither party cheats the other. The need for close inspection is dampened (though not eliminated) because parties to the transaction now have common (and non-trivial) investments in the hierarchy governing the transaction.

The efficiency perspective matches transaction characteristics with alternative governance mechanisms in an attempt to specify the conditions under which these alternative governance forms will efficiently and equitably mediate exchanges. Markets and hierarchies are two broad classes of governance mechanisms studied. Numerous intermediate forms of governance, falling between markets and hierarchies, have also been studied (Williamson, 1979;

Barney and Ouchi, 1981). Hierarchical governance mechanisms may take different forms, which may be differentially efficient in the governance of economic exchanges. Work so far has focused on the differential efficiency of multi-divisional (M-Form), holding (H-Form) and functional (U-Form) organizational forms. Thus the efficiency perspective also attempts to specify the relationship between efficient transaction governance mechanisms through markets, hierarchies or intermediate mechanisms and various organizational forms.

The efficiency perspective is summarized in Figure Two. In this perspective, the matching of transaction characteristics with governance mechanisms

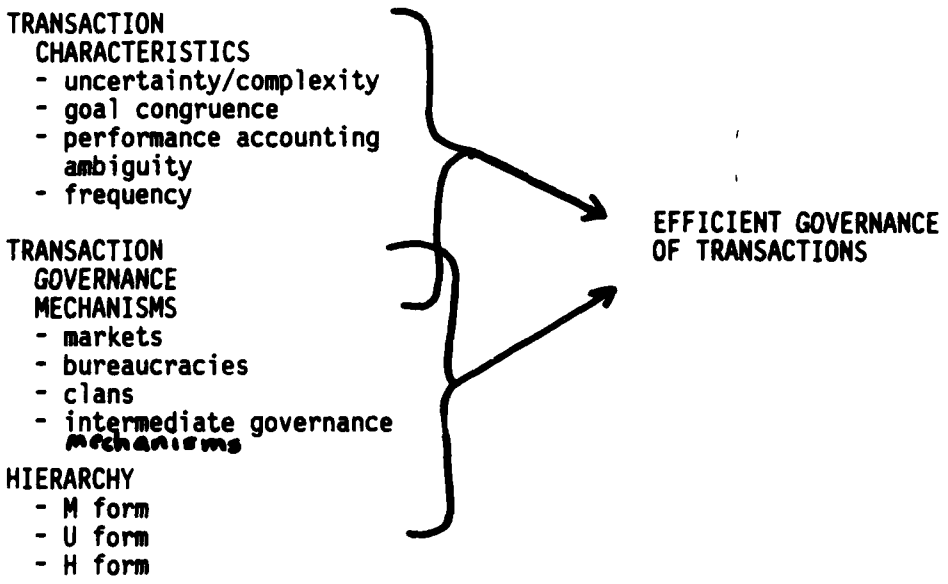
[Figure Two About Here]

relates directly to the efficiency with which a good or service is exchanged. Under certain transactional conditions, markets are appropriate and will lead to efficient outcomes. However, under other conditions, markets will be unable to equitably govern an exchange, and will be replaced by different types of hierarchies. The hierarchical form adapted as a governance mechanism (U, it, or M-form) also needs to be considered in understanding the efficiency characteristics of an exchange governance mechanism.

Theoretical and Empirical Literature

Coase (1937) originally characterized a firm from an efficiency perspective. He argued that the appropriate units of analysis for understanding the firm are transactions between parties within it and that the costs of these transactions affect firm behavior. He recognized that the market system of governing transactions will not always be as efficient as the firm mechanism: "The main reason why it is profitable to establish a firm would seem to be that there is a cost of using the price mechanism . . . The operation of a market costs something and by forming an organization and allowing some authority (an entrepreneur) to direct the resources, certain market costs are saved"

FIGURE TWO. Summary of Efficiency Perspective



(Coase, 1937: 390-2). Coase also suggested that markets will be more efficient than firms in governing transactions when the uncertainty of the transaction is low and knowledge necessary for market contracting is high.

Coase (1960) has added to his original work in a number of ways. Through a close analysis of property rights issues, he showed that in the absence of transaction costs, markets will allocate resources efficiently. Characteristics of a transaction that could make markets perform inefficiently include the difficulty of writing complete contracts and a desire by contracting parties to enter into long term transactional commitments.

Williamson (1975) integrated Coase's general framework with literature from economics and organizational theory to derive what he called an organizational failures framework. In Williamson's perspective, markets fail to efficiently govern economic exchanges because of two characteristic of individuals (bounded rationality, and opportunism) in combination with two characteristics of transactions themselves (uncertainty/complexity, and small numbers bargaining). Following Simon (1957; 1961), Williamson argues that individuals are boundedly rational because of physical and intellectual information processing limitations. However, bounded rationality only becomes relevant in Williamson's framework when the limits of rationality are reached, under transactional conditions of uncertainty or complexity. When market transactions are so uncertain or so complex that they cannot be evaluated or completely understood, markets will fail, and be replaced by hierarchies.

Williamson's concept of opportunism implies that individuals are likely to act in self-disbelieved ways when engaging in economic transactions (Goffman, 1969). Opportunism may take numerous different forms including the distortion of information, the selection of information transferred, or the misrepresentation of intentions (Winter, 1964). Opportunistic behavior only becomes transactionally relevant, according to Williamson, when small numbers bargaining

obtains. In a pure market situation, tendencies towards opportunism remain in check by competitive forces. When competition does not exist and small numbers bargaining obtains (due, perhaps to first mover advantages) parties to a transaction can act opportunistically. In this case, markets, because of the lack of competitive forces, will fail to govern transactions efficiently, and be replaced by hierarchies. Hierarchies may foster common goals and objectives between transacting parties and facilitate close monitoring of each other's behavior, thus discouraging opportunism.

Ouchi (1980) has recently extended Williamson's work by arguing that some transactions may be so ambiguous or complex that they cannot be governed efficiently even by traditional or bureaucratic hierarchies. According to Ouchi, high complexity and uncertainty coupled with a high level of goal congruence will lead hierarchies (bureaucracies) to be inefficient and be replaced or assisted by clans. Clans govern transactions between two parties based on shared values of the two parties. Clans become a mechanism for efficiently governing exchanges under conditions of very high uncertainty/complexity and high goal congruence (i.e., low opportunism). The conditions under which various governance forms will be differentially efficient are currently being more fully specified by Williamson (1979) and Barney and Ouchi (1981).

Managerial Implications

Just as the resource dependence approach has managerial implications for external and internal organizational processes, application of the efficiency model can have an impact on both functions. At the organization-environment interface, use of the efficiency model can help managers resolve the issue of boundary placement. Questions of vertical and horizontal integration are partially resolved by assessing the structure of transaction costs. Analysis

from an efficiency framework helps identify when market relationships will be more efficient, i.e., where a supplier and buyer should remain separate entities and develop explicit contractual agreements to govern their interactions. Careful consideration of transactional characteristics may indicate other times when it would be more efficient for a firm to internalize a supplier function. Once the supplier is incorporated within the boundaries of the organization, the supplier's function may be governed either through rules and a bureaucratic control system or through a clan and high levels of goal congruence.[5]

For internal organizational processes, application of the efficiency model has at least two managerial implications, First, it helps managers identify which organizational form (U, M, or H-Form) is most appropriate, given the nature of an organization's internal transactions. Second, the framework helps identify appropriate governance mechanisms (market, bureaucracy, or clan) within a firm which can be used to improve individual and organizational efficiency performance.

A comparison of the managerial implications of the power and efficiency perspectives will reveal significant overlap. For example, vertical integration, in a variety of forms, is a strategy that could be derived from both

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[5] An example of governing previously external relations through a clan mechanism occurred recently in Southern California. A large foreign manufacturer needed a marketing outlet in the Southern California area. Rather than contract for outlet services, the foreign firm decided to acquire a small firm. In the last year since the small American firm was acquired, the top management of the firm has been visiting the parent company's operations throughout the world. Managers of the small firm have visited these operations, even though they may not be directly related t· their own work, to gain an appreciation of the parent firm's interests and to identify areas where the small firm may be of unique assistance to the parent company. By moving the top management throughout the large firm's operations, the small firm employees have begun to feel a sense of ownership with the parent company. They also have begun to share the goals of the larger firm and assume more characteristics of clan.

models. Also, more subtle forms of intra- and interorganizational coordination, such as the development of clans and cooptation, are consistent with both models. Note however, that the managerial implications of the two models diverge in that the efficiency perspective specifies some of the transactional conditions under which market and intermediate market forms of governance will efficiently mediate organizational exchanges. Conditions under which diffuse power structures such as markets are appropriate managerial strategies are not directly considered by power theorists. In short, while power theorists consider strategies that centralize power and authority in one or a set of organizations, efficiency theorists also consider the ability of diffuse, non-centralized power structures to equitably and efficiently govern organizational transactions. A second, though related, difference of the two models is the end result of applications of each. The result of an application of the resource dependence may be an inequitable distribution of resources with one firm ultimately controlling the majority of scarce and valued resources. Application of the efficiency model generally assumes that long term exchanges cannot be maintained if they inequitably distribute resources. Whatever transaction governance mechanism is employed, be it market, hierarchy, or clan, it must insure long term equity and minimal costs.

THE ECOLOGICAL PERSPECTIVE

Basic Model

If power is the fundamental driving concept of the resource dependence perspective, and if efficiency holds the same role in the efficiency perspective on organization, then the fundamental driving concept of ecological theories of organization is selection. The ecological perspective address two interrelated issues in the analysis of selection and survival. The first of

these is classificatory in nature. From an ecological perspective, it is not possible to understand the development and likely selection of a firm apart from an understanding of the broader environmental context of the firm. Understanding this context generally involves specifying the firm's population and analyzing the broader environment and niche that may have an impact on the population. Once the descriptive classificatory work is accomplished, the dynamic relationship between population, niche, environment, selection mechanisms, and long term organizational survival can be explored. This second phase of analysis often involves the development an evolutionary theory of organizational change, in which specific population characteristics are evaluated relative to their survival potential in different environmental settings (Aldrich, 1979).

Within an ecological framework, theories of organizational classification involve four distinct levels of analysis. At the most micro level, firms are characterized as legally defined units or organizations having an employer and one or more employees (McKelvey, in press). Firms, in turn, can fruitfully be grouped into populations. Populations of firms are simply sets of organizations with similar internal structural characteristics and strategic competencies. Associated with these populations of firms are sets of resources which populations can effectively manipulate and influence to their own advantage. Such manipulatable extra-firm resources are called niches. Several populations can exist within the same niche. That is, several populations of firms can draw from and attempt to manipulate the same set of resources. Finally, those resources and characteristics out of the control and influence of populations of firms are called the environment. At the most macro level, environments are comprised of those social, political, technological, and cultural forces that have an impact on the survival of populations of organizations, but which cannot be manipulated by these populations.

Within an ecological framework, evolutionary models of organizational selection and change generally focus on the relationship between populations of organizations and their niche and environment. Environments define a strategic and resource path which an organization must follow to be selected for and survive over time. Niches provide the resources that a firm must attract to survive. Since limited environmental resources constrain the number of populations a niche can support, some populations and firms are selected against and disappear, while others are selected for and survive. The relationship between characteristics of populations and environmental conditions which lead to this differential selection are called selection mechanisms. Several such mechanisms have received attention in the literature, including various versions of specialist and generalist strategies (Hannan and Freeman, 1977), as well as an analysis of distinctive competencies within a population of firms (McKelvey, in press).

The ecological perspective of organizations is summarized in Figure 3. In this figure, the four relevant levels of analysis--firms, populations,

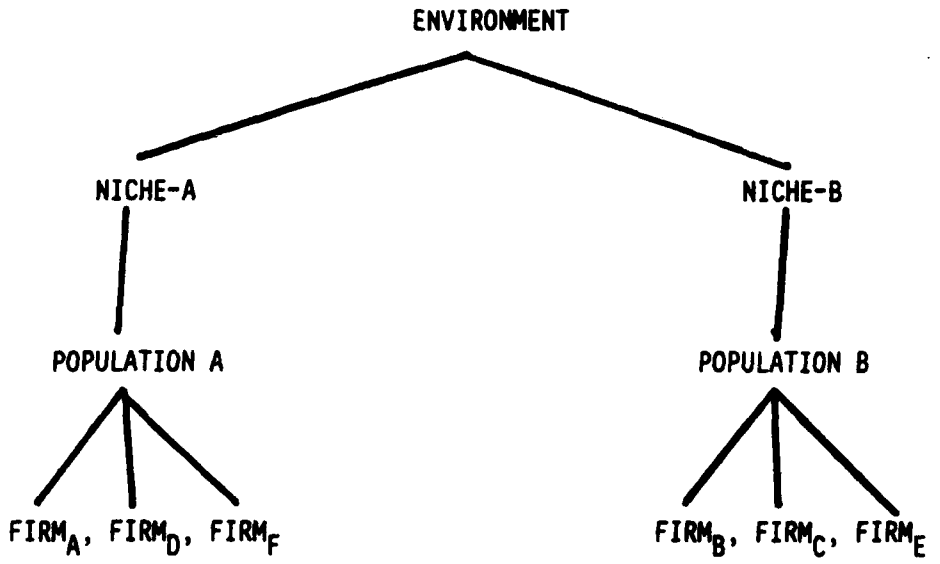
[Figure Three About Here]

niches, and environments--are presented. Placing a firm within this framework allows an understanding of the broader ecological context within which a firm exists. The evolution of populations over time is defined by the selection mechanisms and processes which exist at the interface of a population and its environment.

Theoretical and Empirical Literature

The ecological perspective of organizations draws heavily from biology. Nowhere is this more clearly demonstrated than in the emphasis on classification (McKelvey, in press). The importance of the concept of a population in

FIGURE 3. Levels of Analysis
in the Ecological Perspective



biology has been demonstrated in work by Mayr (1969) and Sneath and Sokal (1973). In biology, populations are classes of organisms with similar characteristics. Two common means of classifying organisms into populations in biology are the evolutionist approach, which relies on the historical development of the organism, and the numerical taxonomy approach, which relies on multi-variate clustering algorithms in the classification process.

McKelvey (in press) has argued that organization theory needs to develop an accepted classification scheme analogous to that in biology. According to McKelvey, an organization classification scheme would help the development of organization science, provide a basis for information retrieval about organizations, increase the generalizability and predictability of organization studies, and provide a basis for sampling in organization research. As in the biological sciences, the classification of organizations, according to McKelvey, should rely both on evolutionary or historical studies (Blute, 1979; Aldrich and Mueller 1980) as well as numerical taxonomic methods (Hall, Hass and Johnson, 1966).

Hannan and Freeman (1977) have related the ecological concepts of niche, environment, population-environment relations, and competition to a discussion of selection mechanisms in organzational theory. Much of this research has focused on organizational structures and strategies firms can adopt within their environments: specialists versus generalists organizational structures and r versus K strategies. According to Hannan and Freeman (1977), a specialist firm is one that concentrates its resource expenditures on a few outputs, while a generalist firm allocates its resources across many different outputs. R strategy firms are those which move quickly to exploit environmental resources as they become available. K strategy firms, on the other hand, are generally not the first to enter a new market, but wait until it shows promise of growth, and then enter it with great intensity.

Hannan and Freeman (1977) have also begun to specify the environmental conditions under which certain strategies increase or decrease the likelihood of firm survival. K-strategists, for example, are generally more likely to succeed in highly settled environments, while r-strategists are generally more successful in environments which are unpredictable, highly variable and change often.

While research in the ecological perspectives of organizations has focused on specialist/generalist and r/K strategies as selection mechanisms, other characteristics of populations of organizations could also be related to survival within an environment over time. Research on organizational life cycles (Kimberly, Miles and associates, 1981) could be recouched with this ecological framework. Indeed, Freeman (1981) has argued that firms in the later stages of the life cycle are less flexible, both strategically and organizationally, and thus are more likely to be selected for by stable, certain environments. Also, recent work by Lippman and Rumelt (1980) argues for the role of luck in selection processes. Because the selection pressures in an environment are essentially unpredictable and the strategies of successful firms are only partially subject to immitation, firms and populations of firms which are selected for may, in fact, simply be lucky. Finally, as we will develop more completely below, both the resource dependence and efficiency perspectives of organizations may also be thought of as selection mechanisms within a broader ecological framework.

Managerial Implications

Each major ecological tradition of classification and and selection research has useful implications for managers (Ulrich, 1981). Classification schemes are central to a firm identifying its own and other populations of

firms. A manager who identifies his/her firm's population can use that knowledge to good advantage. Since other firms in a population face similar environmental challenges, a firm that recognizes its population membership may use other firms in its population as examples of successful strategic innovations and sources for personnel, technological developments, and general information. The common characteristics of firms in the same population heightens the possibility of successful imitation. Observation of organizations within their own population can also help managers avoid strategic pitfalls and may give them increased understanding of their own environmental pressures, as they observe firms with characteristics similar to themselves struggle for long term survival.

Although the population concept has only recently been academically developed, managers often deal with population issues in developing relationships with other organizations. For example, managers in organizations may use the notion of a population to know which firms to collaborate with in lobby activities. While many United States lobby efforts occur with individual firms interacting with legislative bodies, the concept of firms working with other firms in a population for lobby strength has obvious advantages. In fact, the close relationship betwee firms and government in Japan is greatly assisted by firms recognizing and working through populations. In Japan, firms generally lobby through associations which serves as vehicles for populations as they unite organizations with simliar characteristics (Vogel, 1979). These associations represent populations of firms to legislative bodies. Population concepts could also assit managers in knowing with which firms it should develop long term relations for joint ventures, technological innovation, or other shared activities.

If classification concepts help managers know where they belong, selection research helps managers know what they have to do to stay there. Some of the managerial implications of selection mechanisms have already been presented. The major implications of the organizational design (specalist versus generalist) and strategy (r versus K) selection mechanisms studied by Hannan and Freeman (1975) are summarized in Figure Four (Ulrich, 1981). Beginning

[Figure Four About Here]

at the top of this figure, firms in certain environments should, according to Hannan and Freeman (1975), adopt a specialist organizational form and a K-strategy. If a firm's environment is uncertain, but not highly variable, then a generalist organizational form is appropriate. If the environemnt is uncertain and highly variable, but the frequency of change is low, then a generalist structure and K-strategy are appropriate. Finally, if their environment is uncertain, highly variable, and changes frequently, then firms should adopt a specialist organizational structure and an r-strategy.

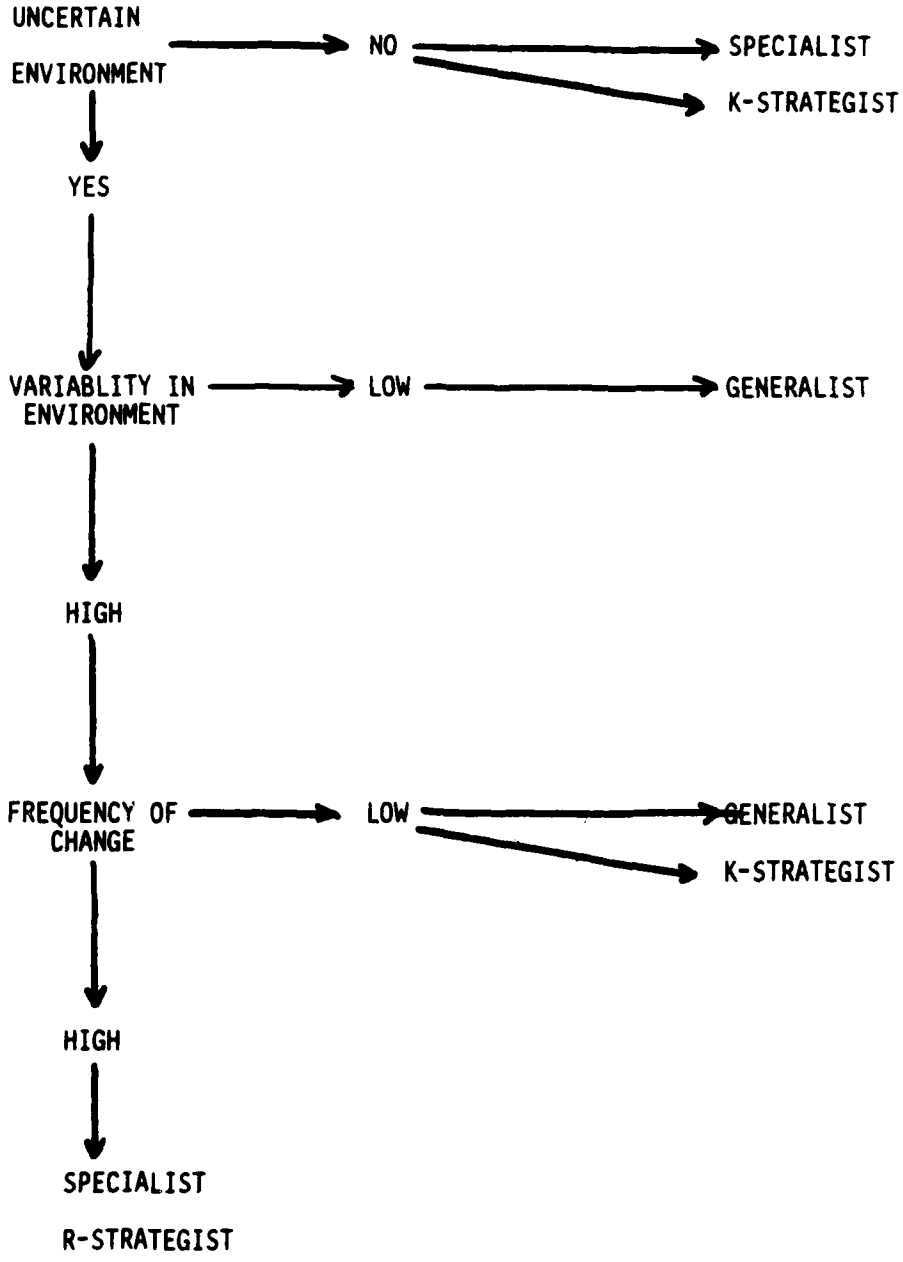
Though these organizational design and strategy selection mechanisms have received by far the greatest attention in the literature, each of the selection mechanisms discussed above may have managerial implications, for each considers the long term survival probability of firms and populations of firms in environments. Further research in the ecology perspective should help clarify some of the managerial implications of selection mechanisms like the organizational life cycle, luck, transaction efficiency, and resource dependence (Ulrich, 1981).

INTEGRATION OF THE PERSPECTIVES

In the above discussion, we have presented the resource dependence, efficiency, and ecological perspectives as three separate approaches in organizational theory. However, we have already seen points of similarity in the

FIGURE FOUR

Selection from Organization Design and Strategy



three perspectives. For example, many of the managerial implications of the resource dependence and efficiency perspectives overlapped. Also, the efficiency and resource dependence perspectives were briefly mentioned as alternative selection mechanisms within a broader ecological framework. Below, we pursue these relationships in an attempt to understand the theoretical interconnections among the three perspectives.

The Resource Dependence and Efficiency Perspectives

An analysis of resource dependence perspectives of organizations should appropriately begin with the concept of power and power maximization. To understand the role of power maximization in this perspective of interorganizational relations, we must first understand why organizations attempt to maximize their interorganizational power. At one level, one could argue that organizations maximize power for its own sake. That is, the ends of organizational power maximization is power itself. Despite its simplicity, power itself as the objective of interorganizational power maximization strategies is an unsatisfying conclusion for two related reasons. First, this response simply delays the fundamental motivation question. If power is the end, in and of itself, then what about power makes it so desirable. To avoid this issue is to fall into tautology, with power becoming both cause and effect. Second, this answer ignores a key objective of most, if not all, interorganizational power maximization strategies as stated in the resource dependence literature--the development of low cost, long term, stable resource acquisition relations between an organization and its environment.[6]

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[6] This is not to suggest that managers within firms may not have alternative interests, besides the development of such stable resource acquisition relations. However, Pfeffer and Salencik (1978) do suggest that such relations are key to organizational survival. Presumably under competitive conditions, organizations where managers failed to develop such relations would be selected against.

Pfeffer and Salacik (1978) begin their power argument by asserting that the key to organizational survival lies in the acquisition of scarce and valued resources from the environment in a stable and low cost manner. Strategies that maximize an organization's interorganizational power will generally yield such desired relations. For example, if, for some reason, one firm is highly dependent on a second for a particularly scarce and valued resource, the first might acquire the second to ensure stable, low cost supplies. The acquisition process represents a reorganization of interorganizational power, a shifting of power away from the second firm and a centralization of power within the first. Thus, in this way, power maximization strategies may lead to acceptable and desirable resource relations.

In an interesting way, the efficiency perspective characterizes the fundamental objectives of organizations in much the same way as the power model. Within this context, a key to organizational success is, again, low cost, stable--and here we can add the word, efficient--resource acquisition. Despite this convergence in underlying organizational motivation, it would be inappropriate to conclude that these two models, despite the distinctions we have presented, are basically the same. For the organizational strategies that resource dependence theorist have studied are generally power maximization strategies, i.e., strategies that centralize power in one or a set of firms. Such strategies represent a movement away from and an abandonment of market forces between firms. While efficiency theorists recognize that power centralization will sometimes be necessary to ensure efficient supply relations (e.g., through hierarchies or clans), they also recognize that when power is distributed across several firms, under conditions of moderate or low exchange complexity or uncertainty, market forces will ensure efficient supplies.

The following example will help demonstrate the differences between these two approaches. Suppose a semi-conductor manufacturer develops a unique and powerful product that a computer manufacturer would like to design into their new machines. Using a power perspective, the computer firm, to ensure low cost, stable supplies would probably acquire the semi-conductor firm, or at least acquire this firm's technology and build the desired chip itself. Such a centralization of power through vertical integration would be necessary to avoid becoming dependent upon the single autonomous semi-conductor firm. In this case, vertical integration represents a power maximization strategy, similar to those listed in Table One. From an efficiency perspective, one could also argue for vertical integration. However, a market alternative also exists. Instead of acquiring the firm, the computer manufacturer could require the semi-conductor firm to license another semi-conductor firm to fabricate the product in question. In other words, the computer firm could attempt to develop a market situation with alternative suppliers, and thus assure itself low cost, stable supplies through market forces. Within the efficiency framework, the choice between centralized (e.g., bureaucracy or clan) and decentralized (e.g., market) governance mechanisms would depend on characteristics of the transaction itself, including the frequency with which the exchange occurred, and the complexity or uncertainty of the exchange. In any case, an efficiency theorist is generally not bound to the consideration of different types of centralized power relations to ensure stable interorganizational relations, but may also consider decentralized market forces.

The above discussion clarifies the relationship between the efficiency and resource dependence perspectives of interorganizational relations. Both theories posit the same basic organizational objectives: the low cost, stable acquisition of valued and scarce resources from the environment. However,

resource dependence perspectives generally only consider alternative power maximization strategies to ensure the desired relations. Such strategies almost always involve some degree of the centralization of power within a firm or a set of firms. Efficiency perspectives recognize that power maximization, through power centralization, may sometimes be appropriate to ensure stable and low cost supplies. However, market forces may also be used to ensure efficient supply relations. Moreover, work has begun in an attempt to specify the conditions under which centralized power governance mechanisms and market forces will each be most appropriate in developing and maintaining low cost, stable supply relations.

The Resource Dependence, Efficiency, and Ecological Perspectives

We have argued that both efficiency and resource dependence perspectives of interorganizational relations posit the development of stable, low cost resource relations as an important organizational objective. As before, however, we are forced to ask an even more fundamental question: why is the development of these types of relations so critical? The answer to this question has already been alluded to in the above discussion. Both resource dependence and efficiency theorists seem to argue that the development of secure and efficient supply relations maximizes the probability for long term organizational survival. Thus, in an important sense, organizational survival becomes a common concern of the perspectives, and stable supply relations becomes one means to attain this end.

Of the three perspectives discussed in the paper, however, only the ecological perspective appears to address directly the question of long term organizational survival. Indeed, organizational selection or survival to an ecological theorist may result from any number of organizational characteristics. We have argued previously that certain structure and strategy characteristics of firms, and their relationship to organizational survival, have

received the most attention. This is not to deny, however, that other organizational characteristics, including the successful formation of long term, low cost supply relations, whether by power maximization strategies or by maximal transactional efficiency, could not also be related to organizational survival. If resource acquisition is assumed to affect the probability of organizational survival, then the resource dependence and efficiency characteristics of organizations can be thought of as alternative selection mechanisms within a broader ecological context, along with other organizational characteristics that might have an impact on survival (e.g., structure, strategy, life cycle, luck).

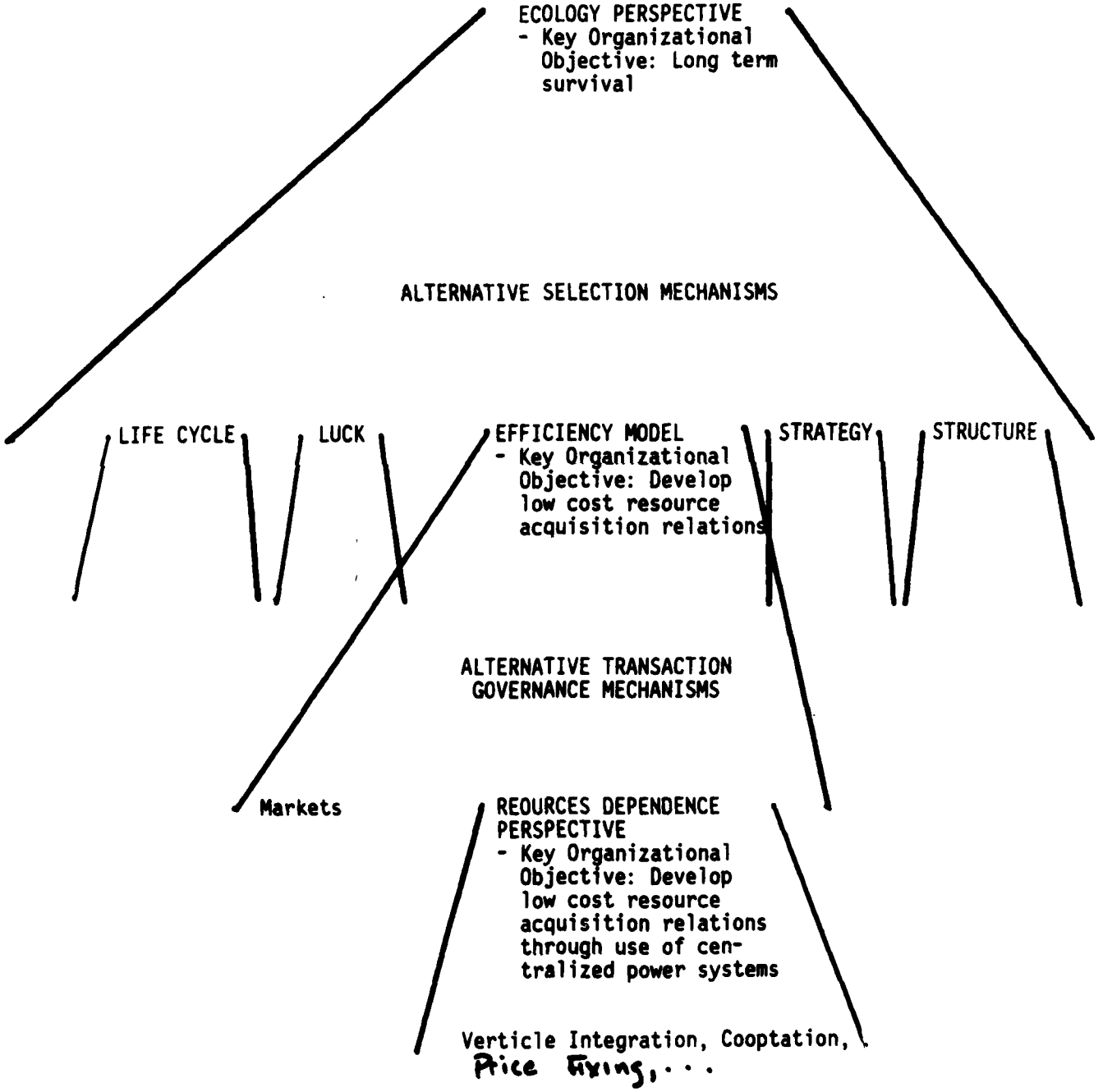
One conclusion of this discussion could be that, because both the resource dependence and efficiency perspectives deal, albeit indirectly, with organizational survival, the ecological perspective has no unique characteristics. However, it seems more appropriate to recognize that *non*-resource dependence or non-efficiency explanations of organizational survival might also exist, and thus the population perspective should not be dissolved into the other two. We have already discussed potential alternative explanation of organizational survival including organizational life cycles, and organizational luck. In practice, it may be the case that an organization can establish stable low cost supply relations, either with resource dependence or efficiency mechanisms, and still not survive. The strategic choice of market, the characteristics of the organization in its life cycle, and even the intangible role of luck may all play a role in ultimately determing long term survival. The ecological perspective addresses these fundamental issues through its emphasis on selection and survival.

An Integrative Framework

The above discussion implies a complex set of relationships between the resource dependence, efficiency, and ecological perspectives in organization theory. Previous work (Aldrich and Pfeffer, 1976) has suggested that the resource dependence and ecological perspectives, are alternative approaches to organizational analysis. Our analysis has already shown several points of overlap between these two perspectives, as well as between them and the efficiency perspective. In this last section of the paper, we suggest a framework within which these interrelationships can be understood. This framework is presented in graphic form in Figure Five. In this framework, the ecological perspective's emphasis on survival and selection indicates that it takes the status of a meta-theory, a broader organizational perspective within which the other two perspectives can be seen as alternative theories of organizational selection. The selection mechanism associated with the efficiency perspective is management's ability to develop stable, low cost supply relations, and to govern these relations efficiently as possible. Organizations that accomplish these tasks, through whatever means, (including market and hierarchical forms) enhance their probability for survival. Within this context, the resource dependence perspective focuses on one class of strategies an organization can employ to attain stable supply relations, strategies that involve the development of centralized power relations.

Though presented in hierarchical form, our analysis does not imply that one theory is in any sense preferable to another. Indeed, within the context of Figure Five, each perspective plays a vital role in the overall understanding of the field of interorganizational relations. Moreover, the position of each theory in the framework points to both strengths and weaknesses. By recognizing the ecological perspective as a meta-theory, we point to the

FIGURE FIVE. A Model of Models



centrality of organizational survival as a concern in many theories of organization. At the same time, this framework suggests that without theories of various selection mechanisms, the ecological perspective remains a non-predictive vocabulary to describe the idiosyncratic evolution of organizations over time. The characterization of the resource dependence perspective as a discussion of a limited number of mechanisms for the development of stable resource relations limits this perspective as a general theoretical statement. Yet, the broad literature in the resource dependence tradition attests to its important role in understanding organizations. Finally, though efficiency theorists have generally thought of theirs as a very general explanation of organizational development and survival, our discussion suggests that alternative, non-contradictory theories must also be considered, within an ecological context, to help explain long run organizational survival. Efficient transaction governance may be an important determinant of organizational survival, but needs to be understood within the context of organizational life cycle, strategy, structure, and luck to name just a few alternatives, and complementary selection mechanisms.

The framework suggested in Figure Five may also have several empirical implications. For example, within this context, one would expect that empirical work done in the resource dependence perspective should be consistent with efficiency analyses of hierarchical governance mechanisms. Thus, many of the important anti-trust implications of the efficiency and resource dependence perspectives should be consistent, though perhaps couched in somewhat different terms. The degree of overlap between the efficiency and resource dependence managerial implications is indicative of this theoretical convergence around centralized or hierarchical approaches to obtaining and maintaining low cost stable resource relations. Also, the recognition of alternative selection mechanisms within an ecological perspective recognizes the importance of

evaluating conditions under which selection mechanisms are more or less related to organizational survival. From the perspective of ecological theoriests, this observation suggests that movement must be made beyond recognizing that environmental forces have an impact on organizational survival. Not only must alternative selection mechanisms be isolated (beyond current structure and strategy discussions), but their relative impact on organizational survival must be addressed in an explicitly multi-perspective context. The antecendents of organizational survival may be many, and a sufficiently broad theoretical approach must be developed to ensure an understanding of these processes. From the point of view of theorists working with particular selection mechanisms, work needs to continue to elaborate their implications for organizational survival. However, the constraints and contingencies that affect an organization's characteristics relationship with survival need to be more carefully specified. This, again, will require a more multi-theoretical approach then has generally been the case in the organizational literature. Finally, the framework presented in Figure Five is based, throughout, on the assumption that environmental scarcity obtains, that is, that organizations are engaged in a struggle for survival through competition for scarce resources. Under these conditions, the selection mechanisms discussed (e.g., organizational efficiency, strategy, structure, life cycle, luck, resource dependence) are relevant in any discussion of organizational survival. However, under non-competitive conditions these persepctives may no longer be relevant, or at least play a fundamentally different theoretical role. For example, life cycle research is likely to generate quite different insights when organizations in non-competitive environments are studied. More broadly speaking, the framework presented in Figure Five suggests the need for yet another framework that could be used to analyze organizations in non-competitive situations.

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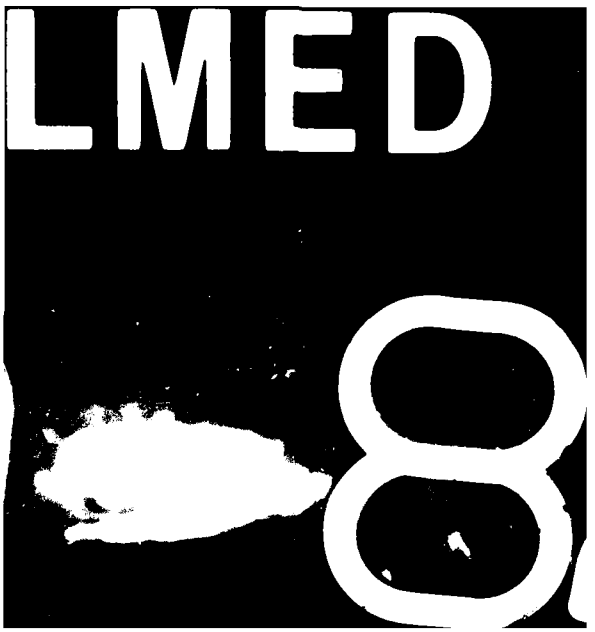
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